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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/810,550	03/19/2001	Hideya Suzuki	501.39856X00	6806

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EXAMINER	
NG, CHRISTINE Y	
ART UNIT	**PAPER NUMBER**
2663	

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

D/V

Office Action Summary	Application No.	Applicant(s)	
	09/810,550	SUZUKI ET AL.	
	Examiner	Art Unit	
	Christine Ng	2663	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *30 November 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10,19 and 21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *19 and 21* is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *19 March 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S Patent No. 6,067,457 to Erickson et al, and in further view of U.S. Patent No. 5,557,608 to Calvagnic et al.

Referring to claim 1, Sicher discloses a base station for assigning a radio communication resource by scheduling time slots to mobile stations for data communication, comprising:

[Figure 3] Transmission (power amplifier 123' and attached antenna) and reception means (receiver 126' and attached antenna) for conducting communication with mobile stations. Refer to Column 5, lines 15-17 and Column 6, lines 25-29.

[Figure 1] Control means (central processor 23) for assigning a time slot (channel) preferentially to a first mobile station that needs to communicate with said base station for a first application (calls to police, fire department, etc. or calls needing handoff) that is given a higher priority over a second mobile station that needs to communicate with said base station for a second application that is given a lower priority lower than said higher priority given said first application. Call requests are stored in a queue in central processor 23. The call requests in the queue are served

according to priority rankings, so that priority calls will preempt other queue entries in obtaining a channel. Priority is determined based on the called or calling number; calls to emergency services (police, fire department, etc) and calls needing handoff are given priority over other calls. Refer to Column 3, lines 1-3; Column 6, lines 52-61; and Column 7, line 52 to Column 8, line 52. Furthermore, the channels refer to time slots (Column 2, lines 59-62; Column 3, lines 49-50; and Column 4, lines 5-33 and lines 44-47).

Sicher et al do not disclose wherein, if there is no free time slot in a next frame, then said control means reassigns a time slot, already assigned to said second mobile station, to said first mobile station.

Erickson et al disclose system in Figure 1 access control gateways (AGC 11-13) which assign voice channels to unit subscribers 21-25. Refer to Column 3, lines 21-42. Call requests are assigned different priorities, with emergency type being the highest priority, active type being the second highest priority,..., and a default type being the lowest priority. Refer to Column 5, lines 8-20. The AGC can prematurely terminate the lowest priority call by switching the channel to an "unassigned" state which informs subscriber units that the call is over. The voice channel is then assigned to the emergency call. Refer to Column 6, lines 26-38. The AGC can reassign a voice channel assigned to a subscriber unit carrying lower priority data to a subscriber unit carrying higher priority data. Furthermore, Sicher discloses that "By giving priority calls various different kinds of preferential treatment, system performance may be significantly increased for such priority calls" (Column 10, lines 19-21). Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was made to include wherein, if there is no free time slot in a next frame, then said control means reassigns a time slot, already assigned to said second mobile station, to said first mobile station. One would be motivated to do so in order to allow high priority data to be transmitted in time slots before lower priority data.

Sicher and Erikson et al do not disclose that data for said second mobile station is registered in a database for storing waiting data which awaits their turn for transmission.

Calvignac et al disclose that in a preemptive resume policy, the buffer with the lower priority class is served only if the buffer with the higher priority call is empty, and the service of the low-priority packet is resumed after the high-priority packets has been served. As shown in Figure 13, while the high priority data is being transmitted, the lower priority data is stored in the low priority buffer 43 awaiting the high priority data to finish transmission, after which the low-priority data is transmitted. Refer to Column 4, lines 4-10; Column 5, lines 56-64; Column 8, lines 6-65; Column 10, lines 15-17; and Column 11, lines 6-9. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that data for said second mobile station is registered in a database for storing waiting data which awaits their turn for transmission. One would be motivated to do so in order to continue transmission of the lower priority data even if it has been preempted by high priority data, thereby preventing data loss.

Referring to claim 2, Sicher discloses that the base station comprises a priority distinguishing means (Figure 1, central processor 23) to distinguish the priority of the first or second application (calls to police, fire department, etc. or calls needing handoff) from signal data of radio channel assignment request (call request) sent from said first or second mobile station. The central processor 23 assigns each queue entry a queue ranking and priority based on the called or calling numbered and the need for a channel from a radio perspective, where calls to emergency services receive priority. Refer to Column 6, lines 52-61 and Column 8, lines 2-20.

Referring to claim 3, Sicher discloses the base station comprises a storage means (Figure 1, database 24) to store mapping between a code (called phone number) representing an application to be offered (calls to police, fire department, etc. or calls needing handoff) to said mobile station over a radio communication channel, included in said signal data of radio channel assignment request (call request) and the priority of the application. Refer to the rejection of claim 2 and Column 6, lines 52-61 and Column 8, lines 2-20.

3. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S Patent No. 6,067,457 to Erickson et al in view of U.S. Patent No. 5,557,608 to Calvagnic et al, and in further view of U.S. Patent No. 6,771,627 to Wyrwas.

Sicher discloses that that base station assigns the best one of the available voice channels in terms of one or more performance criteria to calls of high priority. Refer to Column 8, lines 33-52.

However, Sicher does not disclose that the base station assigns a plurality of radio communication channels to said mobile station that is making an attempt to communicate with said base station and call an application that is given high priority.

Wyrwas discloses that the same call can be transmitted over two or more channels. Since the quality of signals received from a channel varies from time to time, the "likelihood of the signals in all of the channels being unusable at the same time is much lower than the likelihood of one channel being unusable". Refer to Column 1, lines 18-28. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include that the base station assigns a plurality of radio communication channels to said mobile station that is making an attempt to communicate with said base station and call an application that is given high priority; the motivation being so that high priority calls will not only be assigned the best channels but will also be assigned multiple channels in case one of the channels fails, thereby ensuring that the high priority calls are successfully transmitted.

4. Claims 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S Patent No. 6,067,457 to Erickson et al in view of U.S. Patent No. 5,557,608 to Calvagnic et al in view of U.S. Patent No. 6,771,627 to Wyrwas, and in further view of U.S. Patent No. 5,862,485 to Linnewah et al.

Referring to claim 5, Sicher discloses that the base station comprises a means (Figure 2, central processor 23) to measure radio communication quality (bit error rate)

of the channel between said base station and said mobile station. Refer to Column 8, lines 33-64.

Sicher does not disclose that the base station comprises: a control means to make said base station assign a plurality of radio communication channels to said mobile station on the basis of said priority when radio communication quality less than a predetermined quality-indicating-value has been measured by said means to measure radio communication quality.

Linnewah et al discloses in Figure 1 that the base station (Element 101) comprises: A means (not shown) to measure radio communication quality (bit error rate) of the channel between said base station 101 and said mobile station 112 (Refer to Column 8, lines 46-49); and a control means (not shown) to make said base station 101 assign a plurality of radio communication channels to said mobile station 112 on the basis of said priority when radio communication quality (bit error rate) less than a predetermined quality-indicating-value (threshold bit error rate of 7%) has been measured by said means to measure radio communication quality. Refer to Column 8, lines 49-63. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a control means to make said base station assign a plurality of radio communication channels to said mobile station on the basis of said priority when radio communication quality less than a predetermined quality-indicating-value has been measured by said means to measure radio communication quality; the motivation being so that when a priority call experiences a bad

communication channel, more channels can be assigned to the call in order to prevent it from being disconnected and maintain its transmission.

Referring to claim 6, Sicher discloses that the base station comprises a-transmission/reception means (power amplifier 123' and attached antenna, receiver 126' and attached antenna) to transmit/receive data over said radio communication channels. Refer to Column 5, lines 15-17 and Column 6, lines 25-29.

However, Sicher does not disclose that the transmission/reception means transmits/receives data of the same contents over the radio communication channels. Refer to the rejection of claim 4.

Referring to claim 7, Sicher discloses in Figure 1 that the radio communication channels are provided in time slots by time division. Refer to Column 2, lines 53-62.

Referring to claim 8, Sicher discloses that the means (Figure 1, central processor 23) to measure radio communication quality calculates a ratio of the received time slots in error to the number of received time slots for a regular period. Voice channels can be evaluated base on bit error rate BER. Refer to Column 8, lines 53-64. BER is the percentage of bits that have errors relative to the total numbers of bits received in a transmission.

5. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S Patent No. 6,067,457 to Erickson et al in view of U.S. Patent No. 5,557,608 to Calvagnic et al, and in further view of U.S. Patent No. 6,704,577 to Hughes.

Sicher does not disclose that the base station comprises a paging means

for broadcasting the paging information on available applications.

Hughes discloses that the base station broadcasts messages which are received by all remote units within the base station coverage area on a "paging channel" (Column 5, lines 23-25). Therefore, it would have been obvious to one of ordinary skill in the ad at the time the invention was made to include that the base station comprises a paging means for broadcasting the paging information on available applications; the motivation being so that all mobile stations within the base station's cell will be informed of the applications, since the mobile stations continually monitor the paging channel. Refer to Column 5, lines 25-37.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5,570,411 to Sicher in view of U.S Patent No. 6,067,457 to Erickson et al in view of U.S. Patent No. 5,557,608 to Calvagnic et al, and in further view of U.S. Patent No. 6,816,500 to Mannette et al.

Sicher et al do not disclose that the storage means is to retain different priority from that retained in its adjoining base station even if said priority is given to a same application that both base stations offer it over their communication channels.

Mannette et al disclose a system wherein priorities are assigned to different applications, such as giving emergency services the highest or first comparative priority and data services the lowest level of priority. The assignment of priorities is modifiable depending on the needs or requirements of a service provider. Adjoining service providers may provide different levels of priorities depending on their own preferences. Refer to Column 10, line 39 to Column 11, line 6. Therefore, it would have been

obvious to one of ordinary skill in the art at the time the invention was made to include that the storage means is to retain different priority from that retained in its adjoining base station even if said priority is given to a same application that both base stations offer it over their communication channels; the motivation being that some base stations may see certain services as more important than other services, depending on their location or usage.

Allowable Subject Matter

7. Claims 19 and 21 are allowed.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine Ng whose telephone number is (571) 272-3124. The examiner can normally be reached on M-F; 8:00 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky Ngo can be reached on (571) 272-3139. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C. Ng CN
February 10, 2006

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